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نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۱۵ کلاس ..... A .....

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$S_3 = 21 \rightarrow \frac{a_1(q^3-1)}{q-1} = 21 \rightarrow \frac{a_1(q-1)(q^2+q+1)}{(q-1)} = 21 = a_1q^2 + 4 + a_1$

$a_1 a_2 a_3 = 64$

$a_1^3 q^3 = 64$

$(a_1 q)^3 = 64$

$a_1 q = 4 = a_2 \rightarrow a_1 = \frac{4}{q}$

$17 = \frac{4}{q}(q^2+1) \rightarrow 4q + \frac{4}{q} = 17$

$\frac{4q^2+4}{q} = 17$

$17q = 4q^2 + 4$

$4q^2 - 17q + 4 = 0$

$\Delta = 225$

$\frac{17 \pm \sqrt{225}}{8}$

$q = \frac{1}{4} \rightarrow q = \frac{1}{4}$

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$x^2+4, 2x, x^2-1 \rightarrow 8, -4, 2$

$-\frac{1}{2} \quad -\frac{1}{2} = q$

$4x^2 = x^4 - 2x^2 + 4x^2 - 8$

$2x^2$

$x^4 - 2x^2 - 8 = 0$

$(x^2+4)(x^2-2) = x^4 + 2x^2 - 8$

$\Delta = 4 - 4(-8) = 36 = 6^2$

$x = \frac{2 \pm 6}{2} = -2, 4$

$S_7 = \frac{1\left(\left(-\frac{1}{2}\right)^7 - 1\right)}{-\frac{1}{2} - 1} = \frac{-\frac{1}{128} - 1}{-\frac{3}{2}} = \frac{-129}{128} \times \frac{-2}{3} = \frac{43}{64}$

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$1 + q + q^2 + q^3 + q^4 = \frac{121}{81}$

$1 + \frac{a_2}{243} + \frac{a_3}{243} + \frac{a_4}{243} + \frac{a_5}{243} = \frac{121}{81}$

$a_1 = 243 \rightarrow a_2 = 243q \quad a_3 = 243q^2$

$\frac{a_2+a_3+a_4+a_5}{243} = \frac{40}{81} = \frac{120}{243}$

$q = \frac{a_2}{243}$

$a_2+a_3+a_4+a_5 = 120$

$a_1 = 243$

$S_5 = 120 + 243 = 363$

$1, -2, 4, -8, 16, -32, 64$

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$d = \frac{43}{4+19} = 1.5$

$q^4 = 64 \rightarrow q = \pm 2$

$1, 2, 4, 8, 16, 32, 64$

B

$1, 11.5, 22, 32.5, 43, 53.5, 64$

A

$A+B = 32.5 + 8 = 40.5$

$A+B = 32.5 - 8 = 24.5$

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$-24, -\frac{96}{4}, \ldots$

$\frac{-96}{4}, -\frac{96}{4}, \ldots$

$+1.5 = d$

$a_{1.1} = 96 + (1100 \times \frac{1}{4}) \rightarrow a_{1.1} = 1$

$-24 \quad 25$

$1152, a_2, \ldots \quad a_8 = a_1 q^7$

q

$a_8 = 1152 \times q^7 = 1 \rightarrow (2q)^7 = 1 \rightarrow q = \frac{1}{2}$

$(a_1+\lambda d)(a_1+\gamma d)=(a_1+\gamma d)^2=a_1^2+\gamma a_1 d+\gamma^2 d^2=a_1+\gamma\gamma a_1 d+\gamma^2 d^2$

a_γ, a_ν, a_q / b_1, b_γ, b_γ — $a_\gamma \quad a_\gamma+\gamma d \quad a_\gamma+\gamma d$

$\gamma(a_\nu)^2 = a_\gamma a_q$ ✓

$(a_\gamma+\gamma d)^2 = a_\gamma(a_\gamma+\gamma d) \to a_\gamma^2+\gamma a_\gamma d+\gamma^2 d^2 = a_\gamma^2+q a_\gamma d$

$\gamma a_1 d = -\gamma\circ d^2$

$a_1 = -\gamma\circ d \to d = \frac{a}{\gamma\circ} \quad bd = 0$

$\gamma\gamma d^2+\gamma a_\gamma d = 0$

$\gamma(a_1+\gamma d)(d)$

$d = bd \to d = 0$ ✓

$a_\gamma = -\nu d$ ↓ $+\gamma d$

$q d = -a_1 \to a_1 = -q d$

$\gamma\gamma d^2+\gamma a_1 d+\gamma d^2 = 0$

$\gamma\circ d^2+\gamma a_1 d = 0$

$a_\gamma = a_1+\gamma d$

$-\nu d+\gamma d = -\gamma d = a_\nu$ ↓ $+\gamma d$

$\gamma\gamma d^2+\gamma a_1 d = 0$

$d(\gamma\gamma d+\gamma a_1) = 0$

$-\nu d+\gamma d = -d = a_q$

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$a_\gamma, a_\epsilon, a_\nu$ / b_1, b_γ, b_γ — $\frac{1}{\gamma}\times\frac{1}{\epsilon}$, $\frac{1}{\gamma\epsilon}$, $\frac{1}{q\gamma}$

$a_1+d = \gamma d$

$a_1+\gamma d = \epsilon d$

$a_1+\nu d = \gamma d$

$\Rightarrow (a_1+\gamma d)^2 = (a_1+d)(a_1+\nu d)$

$a_1^2+\gamma a_1 d+\gamma d^2 = a_1^2+\nu a_1 d+a_1 d+\nu d^2$

$\gamma d^2-\gamma a_1 d = 0$

$\gamma d(d-a_1) = 0$

$d \neq 0$

$a_1 = d$ ✓ $\quad a_\gamma = \gamma a \quad q = \gamma$

$a\epsilon = \epsilon a$

$a\lambda = \lambda a$

$a_{1\circ} = a_1 \times q^q \to \frac{1}{\epsilon}\times\gamma^q = \gamma\gamma\lambda$

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$a_{1\circ} = a_1 q^q$

$a_{1\circ} = a_1 a^q = a_{1\circ} = a_{11}^{1\circ} \to a_{1\circ} = (\frac{1}{\gamma})^{1\circ}$

$\gamma a_\gamma \quad \gamma a_\gamma \quad a_\epsilon$

$\epsilon a_\gamma = \gamma a_\gamma + a_\epsilon$

$\gamma(a_1 q^\gamma) = \gamma(a_1 q) + a_1 q^\gamma$

$\gamma a_1 q^\gamma = q a_1 q(\gamma+q^\gamma)$

$\Delta = 1\gamma-1\gamma = \epsilon$

$\epsilon q = \gamma + q^\gamma \to q^\gamma+\gamma-\epsilon q = 0 \to q = \frac{\epsilon\pm\gamma}{\gamma} = \frac{1}{\gamma}, \gamma = q$

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$a_n = \gamma+(n-1)\frac{-1}{\epsilon}$

$a_\epsilon = \gamma+\gamma\times\frac{-1}{\epsilon} = \frac{\gamma}{\gamma}-\frac{\gamma}{\gamma} = \frac{q}{\epsilon}$

$a_\lambda = \gamma+\nu\times\frac{-1}{\epsilon} = \frac{\gamma}{\gamma}-\frac{\nu}{\epsilon} = \frac{1}{\epsilon}$

$a_{1\gamma} = \gamma+11\times\frac{-1}{\epsilon} = -1$

$\frac{\gamma}{\epsilon}, \frac{1}{\epsilon}, \dots, -1+n$

$\frac{-1\epsilon}{\gamma} = -\gamma, -\lambda, \frac{-q\gamma}{\epsilon} \to q = \frac{\gamma}{\epsilon}$

$\frac{\gamma}{\epsilon}-\frac{11}{\epsilon} = \frac{-\lambda}{\epsilon} = -\gamma$

$\frac{\gamma}{\epsilon}-\frac{\gamma}{\epsilon} = \frac{\gamma}{\epsilon}-\frac{\gamma}{\epsilon} = \frac{1}{\epsilon}$

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$(\frac{1}{\gamma}+n)^2 = (\frac{\gamma}{\epsilon}+n)(n-1)$

$\frac{1}{1\epsilon}+n^2+\frac{n}{\gamma} = \frac{\gamma}{\epsilon}n-\frac{\gamma}{\epsilon}+n^2-n \to \frac{1}{1\epsilon}+\frac{n}{\gamma} = \frac{1}{\epsilon}n-\frac{\gamma}{\epsilon}$

$\to \frac{1}{1\epsilon}+\frac{1\gamma}{1\epsilon} = \frac{1}{\epsilon}n-\frac{n}{\gamma} \to \frac{1\gamma}{1\epsilon} = \frac{-\epsilon n}{1\epsilon}$

$-\epsilon n = 1\gamma \to n = -\frac{1\gamma}{\epsilon}$

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$a_1+a_\epsilon+a_\nu = \nu\gamma \to b_1 = a_1$

$b_\gamma = a_\epsilon \to a_1 q^\gamma = b_\gamma$

$b_{1\circ} = a_\nu \to a_1 q^q = b_{1\circ}$

$a_1 q^\gamma = a_1+d$

$a_1(q^\gamma-1) = d$

$\nu = d$

$\lambda a_1 = a_1+d$

$\nu a_1 = d \to \nu b_1 = d$

$a_1 q^q = a_1+q d$

$a_1(q^q-1) = q d$

$a_1(q^\gamma-1) = d$

$\frac{(q^\gamma-1)(q^\gamma+1)}{(q^\gamma-1)} = q$

$q^\gamma = \lambda \to q = \gamma$

$a_1(1+q^\gamma+q^q) = \nu\gamma$

$\nu\gamma$

$a_1 = 1 = b_1$

$b_\gamma = \lambda$

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